

AMENDMENTS TO THE CLAIMS

Listing of Claims

The following listing of claims replaces all prior versions and listings of claims in the application.

1. (Currently amended): A system for assisting regeneration of a storage/release NOx trap integrated in an exhaust line $[(5)]$ of a motor vehicle diesel engine $[(4)]$, the system comprising gas admission means for admitting gas into the engine, means for injecting fuel $[(11)]$ into the cylinders thereof in the form of at least pilot and main injections, and means for controlling $[(12)]$ said gas admission and/or fuel injection means for periodically switching the engine $[(4)]$ between a lean mixture standard operating mode in which NOx is stored in the trap $[(6)]$ and a rich mixture regeneration operating mode ~~with at least two pilot injections (1, 2) and one main injection (3)~~, in which NOx is released from the trap $[(6)]$ and the trap is then regenerated, wherein in a rich-mixture regeneration operating mode, the injection means are suitable for implementing at least two pilot injections triggered in a crankshaft angle range from approximately 50° to approximately 5° ahead of the top dead centre point of the cylinder concerned and the main injection is triggered in an undercalibrated range up to a crankshaft angle of approximately 35° after the top dead centre point.

2. (Currently amended): A system according to claim 1, ~~characterized in that~~ wherein the control means $[(12)]$ are adapted to control the gas admission means to reduce the quantity of gas admitted into the engine $[(4)]$ when said engine is in its regeneration mode of operation.

3. (Currently amended): A system according to claim 1, ~~characterized in that~~ wherein the control means $[(12)]$ are adapted to control the gas admission means and/or the fuel injection means $[(11)]$ in accordance with the standard and regeneration modes of operation for engine loads below a predetermined threshold value.

4. (Currently amended): A system according to claim 3, ~~characterized in that~~ wherein the predetermined load threshold value is defined by a brake mean effective pressure (~~bme_p~~) of

approximately 3 bars.

5. (Currently amended): A system according to ~~any preceding claim 1, characterized in that~~ wherein the engine $[(4)]$ is associated with exhaust gas recirculation means $[(9)]$ for recirculating exhaust gas to its inlet, and the control means $[(12)]$ are adapted to regulate the operation of the recirculation means $[(9)]$ during operation of the engine with a rich mixture.

6. (Canceled)

7. (Currently amended): A system according to ~~any of the preceding claims~~ claim 1, ~~characterized in that~~ wherein the control means $[(12)]$ are adapted to control the gas admission means and/or the injection means $[(11)]$ to operate the engine $[(4)]$ with a lean mixture for approximately 60 seconds and a rich mixture for approximately 2 seconds.